# Some Types and Range Extensions in Hybanthus (Violaceae)

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In 1944, I published a paper "The Genus Hybanthus in Continental North America" (Contr. U. S. Nat. Herb. 29: 74-82. 1944). Since that time two significant papers have been published on Hybanthus, one by L. B. Smith and A. Fernandez-Perez, on the Colombian species (Caldasia 6: 124-136. 1954) and one, by Standley and Williams, on the Guatemalan species (Fieldiana, Bot. 24 (7, no. 1): 72-76. 1961). At the time of my publication I had not seen some of the essential types. Since then I have studied the specimens in various European herbaria, especially those in London and Paris. These studies did not reveal any misinterpretations in the paper, but two of the dubious species can now be placed, leaving only two still dubious--Ionidium lasiocarpum Presl and I. lobelioides Schlecht. My notes on types and some range extensions are here brought together, with comments also on three new species recently described from Central America by others.

HYBANTHUS ATTENUATUS (Humb. & Bonpl.) G. K. Schulze, Notizbl. Bot Gart. Berlin 12: 114. 1934.

Ionidium attenuatum Humb. & Bonpl. ex Roem. & Schult. in L. Syst. Veg. ed. nov. 5: 402. 1819. TYPE: Cited merely as "in America meridionali"; the subsequent publication of the nomenclaturally synonymous name Ionidium riparium H. B. K. gave the type locality as Angostura de Carare, on the banks of the Río Magdalena, Colombia, Humboldt and Bonpland. The holotype is presumably in the Willdenow Herbarium, Berlin.

Ionidium riparium H. B. K. Nov. Gen. & Sp. 5: 378. 1823. This is a superfluous change of name of I. attenuatum, which is cited as a synonym. The description is much amplified from the brief one given by Roemer and Schultes, and a definite locality is cited. The specimen that served for the description is in the Humboldt Herbarium, Paris (no. 1643, from Angostura, Río Magdalena, Colombia); there is a duplicate from the Bonpland Herbarium in the general herbarium in Paris. In my 1944 paper I did not cite any type from H. attenuatus. The Paris specimens show that the species was correctly interpreted.

Ionidium calceolarium Ging. in DC. Prodr. 1: 311. 1824. TYPE: Mexico, Sessé & Mociño. Gingins saw only a drawing. I have now seen a Sessé and Mociño specimen at Kew named Viola calceolaria which agrees with Gingins' description and with Sessé and Mociño's own later published description of their Viola calceolaria. This Kew specimen is here designated lectotype. It is a synonym of Hybanthus attenuatus, and has nothing at all to do with Viola calceolaria L.

Viola calceolaria Sessé & Mociño, Plant. Nov. Hisp. ed. 2, 141. 1893, non L., 1763. Described from a garden in Mazatlan, Mexico. To be lectotypified as above by a specimen so named at Kew. The name was presumably published in the first edition which I have not seen.

Ionidium botterii Turcz. Bull. Soc. Nat. Moscou 36(1): 556. 1863. TYPE: Orizaba, Veracruz, Mexico, Botteri s.n. This species has never been placed. I have not seen the type, but a collection of Botteri 319 in the British Museum is from Orizaba and agrees fairly well with the original description, except that the upper flowers are not subsessile. It is likely that this does represent I. botterii, which is then identical with H. attenuatus, which is well known from Orizaba and adjoining regions.

Calceolaria mocinoana Kuntze, Rev. Gen. Pl. 1: 41. 1891. A new name for Ionidium calceolarium Ging.

HYBANTHUS BREVIS (Dowell) Standl. in Standl. & Calderon, List. Prel. Pl. Salvador 152. 1925.

Calceolaria brevis Dowell, Bull. Torrey Bot. Club 33: 552. 1906. TYPE: Volcán Jumaytepeque, Santa Rosa, Guatemala, Heyde & Lux 3943[1] (US).

This species, which I reduced to H. elatus in my revision, appears sufficiently distinct in foliage characters. The leaves are small, not more than 8 cm. long, and merely acute whereas those of H. elatus are generally 13--15 cm. long, and long-attenuate at tip; the midribs and veins beneath are minutely but obviously puberulous in H. brevis and glabrous in H. elatus. The range is Chiapas (Sumidero of Yochib, Koltol Te', Breedlove 6231; Moel Ch'en, above Tenejapa, Breedlove 10902) and Guatemala (Cobán, Alta Verapaz, Tuerckheim II 1354; Volcán Jumaytepeque, Santa Rosa, Heyde & Lux 4435; Río Frio, between Tactic and Santa Cruz, Alta Verapaz, Molina & Molina 12248; Cerro Pixpix, Huehuetenango, Steyermark 50590). As may be noted, the departments of Guatemala in which H. brevis occurs are all different from those where H. elatus has been found, which may indicate some ecological preferences.

HYBANTHUS CALCEOLARIA (L.) G. K. Schulze, Notizbl. Bot. Gart. Berlin 12: 114. 1934.

In 1944 I knew this distinctive species in North America from only a single collection from British Honduras, and suspected that it might be an introduction. This is evidently not true, for the species is now known from several collections from British Honduras and also from Veracruz and Oaxaca, Mexico, viz.: Mexico: East of Alvarado, Veracruz, Miranda 8513; northeast of Minatitlán, Veracruz, King 1051; northwest of Zanatepec, Oaxaca, King 483; east of

[1] By a typographical error cited as 2943 in my 1944 paper.

Niltepec, King 1809; British Honduras: Jenkins Creek, Stann Creek District, Hunt 363; San Luis Road, El Cayo District, Augustine, Hunt 225; Cow Pen, Toledo District, Gentle 4076.

HYBANTHUS CHIAPENSIS Lundell, Wrightia 4: 36. 1968.

TYPE: Carelas, Chiapas, Mexico, Matuda 5514.

I have seen no material. This is the fifth shrubby species known from Mexico. It can be distinguished from the others by its solitary flowers, small, congested leaves, and large capsules ca. 1 cm. long.

HYBANTHUS ELATUS (Turcz.) Morton, Contr. U. S. Nat. Herb. 29: 80. 1944.

In my revision I placed Hybanthus brevis (Dowell) Standl. as a synonym, but a reexamination of the type and other material indicates that it can stand as distinct. The true H. elatus is represented by specimens from Veracruz (Botteri 895, L. C. Smith 1840), Mexico (Tequezquinahuac, Cerro de Azompan, Matuda 31181, US), Ghiesbreght 47 (perhaps from Chiapas ?), and Guatemala (Finca Vergel, San Marcos, Standley 68921; Aldea Fraternidad, San Marcos, Williams et al. 26024; Volcán Fuego, Chimaltenango, Steyermark 52056; Volcán Santa Clara, Suchitepéquez, Steyermark 46627; between Finca Pirineos and Patzulín, Quezaltenango, Standley 87076; between Santa María de Jesus and Palín, Escuintla, Standley 61293. The specimen that I cited from Oaxaca (Conzatti & Cancino 2432) proves on further study to represent H. verbenaceus (H. B. K.) Loesen. I still have not seen the type of H. elatus, which is presumably in Leningrad, and so it is placed from the description only.

HYBANTHUS GALEOTTII (Turcz.) Morton ex Williams, Fieldiana Bot. 29: 358. 1961.

Ionidium galeottii Turcz. Bull. Soc. Nat. Moscou 27(2): 339. 1854. TYPE: Jalapa, Veracruz, Mexico, Galeotti 7085.

Hybanthus occultus (Polak.) Standl. Field Mus. Publ. Bot. 18: 714. 1937.

In 1944, I adopted the name H. occultus and regarded Ionidium galeottii as a dubious species. However, I have now seen a photograph (Field Museum no. 24006) of an isotype of I. galeottii from the herbarium in Geneva, and this shows that the species is identical with Purpus 13012, from Zacuapan, Veracruz, Mexico, the type of Hybanthus purpusii Standl., which I consider the same as the Costa Rican H. occultus (Polak.) Standl. Since Ionidium galeottii (1854) has priority over I. occultum Polak. (1877), the new combination H. galeottii was necessary.

Although I treated this plant among the herbaceous species of the genus, it is actually usually a shrub. According to the data on Skutch 2413, it is: "A shrub 2 m. high, with slender, wiry stems; flowers white, with a yellow spot at base of the large petal." According to Austin-Smith H796: "Open diffuse shrub with stems

over 1 m. long; bark pale brown; leaves thin, faintly scabrous; lower lip petal large, pure white." Steyermark 49639 says "Shrub 3 feet tall; petals lilac-white; leaves membranous, rich green above, pale green beneath." These quotations show that there may be some variability in the flower color.

HYBANTHUS MEXICANUS Ging. in DC. Prodr. 1: 312. 1824.
TYPE: Mexico, Sessé & Mociño (not seen; no exact locality cited)

Key to the Subspecies

Leaves obviously pilose on the surfaces of both sides. Yucatán. subsp. pilosus

Leaves glabrous on the surfaces.

Leaf midrib above with rather few, largest spreading hairs. San Luis Potosí.... .....subsp. mexicanus

Leaf midrib above puberulous, the hairs minute, numerous, curved. Sonora, Sinaloa, Baja California...subsp. occidentalis

Subsp. MEXICANUS

Restricted to San Luis Potosí apparently (Pringle 3063, syntype of Alsodeia parvifolia S. Watson), 4019 (syntype of Alsodeia parvifolia S. Watson); Purpus 4897, 5455).

Subsp. OCCIDENTALIS Morton, subsp. nov.

Folia in superficiebus omnino glabra, marginibus vix ciliolatis, costa supra minute et subdense puberula.

Type in the U. S. National Herbarium, no. 1,686,634, collected at Arroyo de Mescales, Río Mayo, Sonora, July 21, 1936, by H. S. Gentry (no. 2291). Described on label as "a shrub two or three meters high, at the foot of a forested slope, tropical Sonoran zone."

PARATYPES (all from Mexico): Cerro Prieta, near Culiacan, Sinaloa, Nov. 30, 1944, alt. 150-500 feet, Gentry 7114 (US), "spreading undershrub; flowers dull white"; Western slopes of Sierra de la Laguna, east of Todos Santos, Baja California, Dec. 28, 1947, Carter, Alexander, & Kellogg 2453, "straggly tree up to 6 m. tall; flowers creamy white; in tall, fine-leaved leguminous forest on lower slopes"; Cape Region, Baja California, Nov. 4, 1902, T. S. Brandegee (US) (distributed as Alsodeia parvifolia).

Subsp. PILOSUS Morton, subsp. nov.

Folia utrinque evidenter pilosa.

Type in the U. S. National Herbarium, no. 1,266,286, collected in Yucatan, Mexico, 1917--1921, by George F. Gaumer (no. 23,944) (Distributed as Hybanthus acalyphoides Standl., an unpublished name).

PARATYPES (all from Yucatán): Buena Vista Xbac, Gaumer 1044 (US); without specific locality, Gaumer 24, 168 (US).

HYBANTHUS OPPOSITIFOLIUS (L.) Taubert, in Engl. & Prantl, Nat. Pflanzenfam. 3(6): 333. 1895.

Ionidium longifolium Sessé & Mociño ex Ging. in DC. Prodr. 1: 311. 1824. TYPE: Mexico, Sessé & Mociño. Gingins saw no specimens. There is a Sessé and Mociño specimen in the British Museum determined as Viola longifolia from "N. E.," i.e. Nueva España (=Mexico). This agrees with Gingins' description

and is surely authentic. It is here designated lectotype. My 1944 disposition of the species as a synonym of H. oppositifolius was correct. Mounted on the same sheet is another Sessé and Mociño specimen from Mexico with the name "Viola linearifolia," unpublished name; this is also a poor specimen of H. oppositifolius.

Ionidium parietariifolium DC. Prodr. 1: 308. 1824.

Ionidium parietariifolium var. houstonii DC. Prodr. 1: 308. 1824.

Ionidium parietariifolium var. berterii DC. Prodr. 1: 308. 1824.

The species I. parietariifolium was originally divided into two varieties α houstonii and β berterii. It is evident that var. α is to be considered as the typical variety. It was based on a collection from Veracruz in the Banks Herbarium (British Museum) and on a specimen in the Lambert Herbarium from Peru collected by Ruiz and Pavon. I designate the specimen in the British Museum as lectotype; it bears the notation "Viola americana annua erecta parietariaefolio flore oblongo" and was evidently from the Miller Herbarium and collected by Houston. It represents typical Hybanthus attenuatus (Humb. & Bonpl.) G. K. Schulze. The var. berterii was described from "in Sanctae Marthae", evidently the Santa Marta Mountains, Colombia, collected by Bertero. I have seen an isotype in Paris labelled "Ins. S. Marthe, de M. Balbis cuilli par M. Bertero, no. 35." The "Ins.," i.e. "insula" is evidently an error for "in," since Santa Marta is not an island. This specimen probably represents H. attenuatus also, but it is dwarf and atypical.

Although a perennial, H. oppositifolius sometimes flowers the first year from seed and therefore appears annual. Annual plants can be distinguished from the strictly annual H. attenuatus by the essentially glabrous stems, those of H. attenuatus being strongly pilose in broad lines. This may now be reported also from British Honduras (Mountain Pine Ridge, El Cayo District, Lundell 6661; Augustine, El Cayo District, Hunt 117) and Honduras (El Zamorano, Morazán, Standley 19009).

HYBANTHUS PROCTORI Lundell, Wrightia 4: 37. 1968.

TYPE: Between Pulay and San Juan Cotzal, El Quiché, Guatemala, Proctor 25009.

I have not seen the type, but there is a paratype in the National Herbarium: Nebaj, El Quiché, Contreras 5032. This is an herbaceous species that will run to H. verbenaceus in my key, to which it is not perhaps closely allied. It has much larger, differently shaped leaves, and elongate pedicels.

HYBANTHUS PRUNIFOLIUS (Humb. & Bonpl.) G. K. Schulze, Notizbl. Bot. Gart. Berlin 12: 114. 1934.

Viola prunifolia Humb. & Bonpl. ex Roem. & Schult. in L. Syst. Veg. ed. nov. 5: 391. 1819. TYPE: Presumably in the Willdenow Herbarium, Berlin, collected by Humboldt and Bonpland. No locality other than "America meridionalis" was cited, but

the specific locality was given by H. B. K. under nomenclaturally the synonymous Ionidium anomalum as "in sylvis (Bosque del Zapote) juxta Turbaco, 190 hex. Regno Novo-Granatensi," [i.e., near Turbaco, Department of Bolívar, Colombia].

Ionidium anomalum H. B. K. Nov. Gen. & Sp. 5: 381, t. 500. 1823. A superfluous change of epithet for Viola prunifolia Humb. & Bonpl., cited as a synonym. The description is much amplified from that given by Roemer and Schultes. I have seen the isotype in the Humboldt Herbarium, Paris, and another in the general Herbarium, Paris, no. 1454 from the Bonpland Herbarium, noted as from Turbaco.

HYBANTHUS SERRULATUS Standl. Journ. Washington Acad. Sci. 17: 312. 1927.

In 1944 this species was known only from the type from Michoacán or Guerrero, Langlassé 558. Mr. George Hinton turned up three additional collections in his extensive explorations of western Mexico: Ocatitlán, State of Mexico, Hinton 8587; Puerto Zarzamora, Michoacán, Hinton 12716, and Vallecitos, Guerrero, Hinton 11654.

HYBANTHUS SYLVICOLA Standl. & Steyerm. Field Mus. Publ. Bot. 23: 176. 1944.

TYPE: Finca Los Alpes, Pila-pec, Alta Verapaz, Guatemala, Wilson 329.

I have not seen the type. A specimen identified by Lundell as probably this is Seamay, Petén, Guatemala, Contreras 6656, and from the description it does appear to be the same. This is the sixth shrubby species known from Central America. It does not appear to be closely allied to the others, differing in its large, glabrous, lanceolate, entire leaves, and its small, fasciculate flowers on slender pedicels.

HYBANTHUS THIEMEI (Donn. Smith) Morton, Contr. U. S. Nat. Herb. 29: 81. 1944.

This species has been previously known in Mexico only from Campeche. It may now be reported also from Yucatan, Gaumer in 1895, no. 855 (BM), without specific locality (originally distributed as Ionidium brevicaule Mart.). It may also be reported from Costa Rica for the first time: Vicinity of El General, Prov. San José, Skutch 3960, 3975 (both US).

HYBANTHUS VERBENACEUS (H. B. K.) Loesen. Bull. Herb. Boiss. II, 3: 215. 1903.

Ionidium verbenaceum H. B. K. Nov. Gen. & Sp. 5: 379, t. 497. 1823.

In my 1944 paper I did not cite a type for this species. It was described from "in Horto Mexicano," i.e. in a Mexican garden. Since this species is by no means ornamental and has no known uses, it may be assumed that the original plant was naturally occurring in the garden rather than cultivated. I have now seen the holotype in the

Humboldt Herbarium in Paris (no. 4024, marked "Hort. Mexican." It shows that the species was correctly interpreted in my paper. The type is a small perennial, with the acute leaves cuneate at base, ca. 2 cm. long and 1.5 cm. broad, bluntly toothed, with about eight teeth on either side; the calyx lobes are slender and pubescent and the labellum not villous; there are no capsules present. It is similar to a specimen in Paris collected by Brother Nicolas (s.n.), at Guadelupe, Puebla, Mexico, June 15, 1910.

HYBANTHUS VERTICILLATUS (Ortega) Baill. Hist. Pl. 4: 345. 1873

Ionidium lineare Torr. Ann. Lyc. New York 2: 168. 1828. TYPE: Red River, Ark., James.

Hybanthus linearis (Torr.) Shinners, Field & Lab. 19: 126. 1951.

Shinners has adopted the name H. linearis for the common Texas form of this species, which has most of the leaves alternate rather than opposite or verticillate. However, the position of the leaves appears to be variable and perhaps not significant. Plants with alternate leaves are also commonly found in Mexico, and one such is Ionidium gracile Sessé & Mociño ex Ging. in DC. Prodr. 1: 309. 1824. If plants with alternate leaves are to be segregated then the epithet gracile has priority over linearis.